



# Forensic Scientific Investigation of Deaths Associated with Mass Disasters

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# Hurricane Katrina

A Question of Murder • Prometheus Books, 2008



Victims Identification Center, near Carville, LA, - the "forensic Taj Mahal" for autopsying Hurricane Katrina victims.



An airboat helps to evacuate patients and staffers in New Orleans, following Hurricane Katrina in 2005.

# Memorial Medical Center

A Question of Murder • Prometheus Books, 2008



Dr. Anna Maria Pou, shortly after her July 2006 Arrest for the murders of patients at New Orleans' Memorial Medical Center.



Elaine Nelson died from an overdose of morphine, fentanyl, and Demerol. Her family wanted to know why she was given those drugs.

# Memorial Medical Center

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*Chapter Five, Page 286:*

On October 3, 2006, I sent three reports to Butch Schafer, with copies to Frank Minyard. The first was an analysis of the deaths of five Life- Care patients: Harold Dupas, George Huard, Alice Hutzler, Wilda McManus, and Elaine Nelson. In all cases I determined the patients died of "acute combined drug toxicity." At this juncture I was only looking for the presence of morphine and midazolam (Versed) in the patients' systems; later I would get back reports that disclosed the presence of other medications in these patients. I further explained that in a review of the patients' hospital charts, neither morphine nor midazolam had been properly and officially ordered by an attending physician for Mr. Dupas, Mr. Huard, or Ms. Hutzler. Morphine had been previously ordered for Ms. Nelson, I wrote, but it had been discontinued days earlier. Morphine had been ordered in a therapeutic dosage for Ms. McManus, but there was nothing in the record to indicate that it was ever administered.



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*(continued)*

I could find no "appropriate and reasonably necessary clinical basis" for either morphine or midazolam to have been prescribed and administered to any of these patients. And I noted that it would have been physically and procedurally impossible for any of these patients to have obtained and administered morphine and Versed to themselves, which led me to assert that the drugs were administered to these patients by one or more third parties. "In light of all of the above described physical and clinical circumstances relating to these patients at and around the reported times of their respective deaths, the manner of death would be classified as homicide," I wrote.





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*(continued)*

My second report was with regards to patients Hollis Alford, Emmett Everett Sr., Rose Savoie, and Ireatha Watson, all four of whom had been on a number of medications for a variety of ailments – but none of whom were being administered either morphine or midazolam for their routine pharmaceutical care requirements. Only Mr. Alford had a physician's order, dated August 31 – the last day any charting was done – stating that the patient "may have morphine sulfate one to four mg [emphasis mine]" every hour as needed to counter agitation. "Post-mortem analysis of tissues and fluids from these individuals showed the presence of morphine in liver, brain, and purge fluid," I wrote. Three cases also had midazolam present. Then I made a chart of which patient had what drugs and the amounts. I noted that the toxicological analysis of the tissues also showed the presence of some of the routine drugs that patients had been administered during their LifeCare stay, and those levels were in the routine and therapeutic category. I then drafted another chart showing the significant morphine quantities in each person's liver, brain, and Muscles – levels that I felt were consistent with a lethal overdose. I found that Mr. Alford and Ms. Watson had midazolam quantities in their tissues that appeared to be in greater concentrations than would be expected from therapeutic doses.



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*(continued)*

There was not a lot of literature written about tissue concentration for midazolam lethality, but I cited one textbook, titled *Disposition of Toxic Drugs and Chemicals in Man*, by analytical toxicologist Dr. Randall C. Baselt. It explained that purge fluid is not identical to blood; rather, it is fluid that develops in the body during decomposition. Purge fluid, however, will contain quantities of the same drugs that are in the blood. The purge fluid in each of the four cases I outlined also contained significant quantities of morphine and midazolam, I offered. In summary, I stated that a lethal amount of morphine was present in all four cases. Mr. Alford's liver had a lower concentration of the morphine than the other three, but he still had significant levels in his muscle, brain, and purge fluid – the dosage was "much greater than what had been Ordered in his medical record. And in three of the cases, the midazolam was greater than therapeutic. I wrote that there was intent to produce a lethal outcome in these patients.



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The third report listed eleven different LifeCare patients who also died, I found, from acute drug toxicity. Six patients died with midazolam, alone, in their systems: George Baumgartner, Sonia Beard, Warren Clifton, Wilmer Cooley, Carrie Hall, and Martha Hart. Donna Cotham had only methadone in her system. Marcus Grant had only morphine and Dilaudid – and Lawrence Batiste, Essie Cavalier, and Merle Lagasse had combined levels of morphine and midazolam. I wrote that none of these drugs had been properly and officially ordered by an attending physician for any of these patients and that there was no appropriate and reasonably necessary clinical basis for any of these drugs to have been prescribed and administered to the eleven. As with my first report, I stated that these patients could not have dosed themselves and had to have received their medications from one or more third parties. "In light of all the above described physical and clinical circumstances relating to these patients at and around the reported times of their respective deaths, the manner of death would be classified as homicide," I wrote. Unfortunately, I was later informed that these eleven cases were not going to be considered for prosecution, although I never learned the reasoning for that decision.





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*(continued)*

After receiving more detailed toxicological analysis on the first group of LifeCare patients – Harold Dupas, George Huard, Alice Hutzler, Wilda McManus, and Elaine Nelson – on October 20, I sent Schafer a new report. I informed him of the precise medications in each patient and in what parts of the body I detected the presence of drugs and in what quantities. Again, I prepared a chart. Harold Dupas had received morphine, midazolam, and sertraline, or, as it is marketed, Zoloft. George Huard had morphine, midazolam, and metoclopramide, which is sold under the name Reglan. Alice Hutzler had morphine, midazolam, paroxetine – which is sold under the name Paxil – and citalopram escitalopram, also known as Celexa or Lexapro. Wilda McManus had morphine, midazolam, hydromorphone – which is known as Dilaudid – and lorazepam, which is sold under the name Ativan; she also had desmethylsertraline, a metabolite of Zoloft, in her blood. And Elaine Nelson had morphine, fentanyl, and meperidine, which is also known as Demerol.



# Memorial Medical Center

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*(continued)*

A summary of our five expert reports on the nine LifeCare patients follows and was posted by a CNN employee at its Internet site. Due to the advanced decomposition of these patients, the various medical examiners who performed their post-mortems offered only minimal details in the autopsy reports, but each patient's physical maladies were listed. Here, I've deleted the patients' medical backgrounds for their privacy. Attached to each autopsy report was a full toxicological screening from the National Medical Services laboratory.



# Memorial Medical Center

Letter to Arthur Schafer, Deputy Attorney General • October 3, 2006

**Re: Memorial Hospital Deaths**

**Dear Mr. Schafer:**

I have completed my review and analysis of the Lifecare (Memorial Hospital) records of the following patients, all of whom reportedly died sometime on Thursday, September 1<sup>st</sup>, 2005, when they were patients on the seventh floor of that facility:

Harold Dupas  
George Huard  
Alice Hultzler  
Wilda McManus  
Elaine Nelson

Based upon my examination of all the materials and information pertaining to these patients that have been submitted to me, I am prepared to offer the following conclusions and opinions, all which are set forth with a reasonable degree of medical certainty.

1. The primary and immediate cause of death for each of these patients was acute combined drug toxicity, specifically, morphine and versed.
2. Neither morphine nor versed had been properly and officially ordered by any attending physician for Dupas, Huard, or Hutzler.  
  
Morphine had been previously ordered for Elaine Nelson, but it had been discontinued on August 24th.  
  
Morphine in an appropriate therapeutic level had been ordered for Wilda McManus. However, there is nothing in the record to indicate that it was ever administered.
3. There does not appear to have been an appropriate and reasonably necessary clinical basis for either morphine or versed to have been prescribed and administered to any of these patients.



# Memorial Medical Center

Letter to Arthur Schafer, Deputy Attorney General • October 3, 2006

4. It would have been physically and procedurally impossible for any of these patients to have obtained and administered morphine and versed to themselves.
5. Morphine and versed were administered to these patients by one or more third parties.
6. In light of all the above described physical and clinical circumstances relating to these patients at and around the reported times of their respective deaths, the manner of death would be classified as homicide.

Please let me know if you would like to have any additional discussion regarding these Lifecare (Memorial Hospital) deaths.

Very truly yours,  
Cyril H. Wecht, M.D., J.D.



# Memorial Medical Center

Letter to Arthur Schafer, Deputy Attorney General • October 20, 2006

**Re: Memorial Hospital Deaths  
Review of Five Cases**

**Dear Mr. Schafer:**

**Enclosed are the toxicological data pertaining to the following five individuals who died at Memorial Hospital sometime on Thursday, September 1, 2005:**

**Harold Dupas, George Huard, Alice Hutzler, Wilda McManus, Elaine Nelson.**

**In my opinion, based upon a reasonable degree of medical probability, each of these hospitalized patients died as a result of acute combined drug toxicity. Each patient received an excessive amount (above therapeutic range) of two or more central nervous system depressant drugs that were either not prescribed and/or not therapeutically indicated.**

**Please refer to my previous report (October 3, 2006) regarding these five cases for additional commentary.**

**Should you have any questions concerning this report, or if you require any additional analysis, please do not hesitate to let me know.**

**Very truly yours,  
Cyril H. Wecht, M.D., J.D.**



# Memorial Medical Center

## A Question of Murder, Page 290

HAROLD DUPAS, seventy-eight, black male. No documented use of morphine, midazolam, or lorazepam (Ativan). Toxicology results showed he had morphine, midazolam, and sertraline (Zoloft) in his system at autopsy.

## REVIEW OF FIVE CASES – MEMORIAL HOSPITAL DEATHS

[All values are listed in nanograms/grams, consistent with toxicology reports from National Medical Services. Meperidine is the only drug that has a different metric reporting system]

DUPAS, Harold

	Morphine	Midazolam (Versed)	Sertaline ( Zoloft)
LIVER	3500	910	2000 Desmethylsertraline 6000
MUSCLE(Thigh)	1300	140	
PURGE FLUID	2700	46	
BRAIN	560	570	





# Memorial Medical Center

GEORGE HUARD, ninety-one, male; race was not stated. No orders for morphine or Versed. Toxicology results showed he had morphine, midazolam and metoclopramide (Reglan).

ALICE HUTZLER, ninety, white female. No orders for morphine or Versed. Was given both Lexapro and Paxil (with a note asking why she was prescribed both). Toxicology showed she had morphine, midazolam, paroxetine (Paxil), and citalopram escitalopram (Celexa or Lexapro). Toxicology results showed she had morphine and midazolam in her system at autopsy.

HUARD, George

	Morphine	Midazolam	Metoclopramide (Reglan)
LIVER	2300	510	2000
MUSCLE	600	52	
PURGE FLUID	990		
BRAIN	200	110	

HUTZLER, Alice

	Morphine	Midazolam	Paroxetine (Paxil)	Citalopram Escitalopram (Celexa/Lexapro)
LIVER	2300	100	4900	4800
MUSCLE	350	610		
PURGE FLUID	3900			
BRAIN	450	43		



# Memorial Medical Center

ELAINE NELSON, ninety, white female. Last morphine dose on August 22. Demerol prescribed. Toxicology results showed she had morphine, fentanyl, and meperidine (Demerol) in her system at autopsy.

WILDA S. McMANUS, seventy, black female. Morphine and Ativan prescribed on August 31, but not documented; Vicodin given. No Versed order. Toxicology results showed she had morphine, midazolam, hydromorphone (Dilaudid), lorazepam (Ativan), and desmethylsertraline (a metabolite of Zoloft) in her system at autopsy.

NELSON, Elaine

	Morphine	Fentanyl	Meperidine (Demerol)
LIVER	1800	47 (Norfentanyl - 32)	0.46 mcg/g (Normeperidine 10 mcg/g)
MUSCLE	390	18 (Norfentanyl - 5.4)	Less than 0.20 mcg/g
PURGE FLUID	990	4.3 (Norfentanyl - 10)	(Normeperidine 1.9 mcg/g)
BRAIN	240	10 (Norfentanyl - 4.2)	Less than 0.20mcg/g (Normeperidine 1.9 mcg/g)

McMANUS, Wilda

	Morphine	Midazolam	Hydromorphone (Dilaudid)	Lorazepam (Ativan)
LIVER	2700	530		
BILE	5500		130	19
PURGE FLUID	3500	31	18	
BRAIB	1100	110		Less than 40

\*Note: Desmethylsertraline reported as positive in blood.

# Hurricane Katrina Disaster

## Review of 4 cases from Katrina disaster

Hollis Alford, Emmett Everett, Rose Savoie and Ireatha Watson

All 4 of these patients were on a number of medications for a variety of ailments. Notably, none of the patients were being administered either morphine or midazolam for their routine pharmaceutical care requirements. Only one patient (Hollis Alford) had a physician's order on 8/31/05 (the very last entry) stating that the patient "may have morphine sulfate 1 – 4 mg" every hour as needed for "restlessness/agitation." Otherwise there is no indication that this patient had been administered either midazolam or morphine for their drug therapy.

Post mortem analysis of tissues and fluids from these individuals showed the presence of morphine in liver, brain, and purge fluid. Three cases also had muscle tissue analyzed, also showing presence of morphine. Three of the cases also had midazolam present.



# Hurricane Katrina Disaster

## A Question of Murder, Page 290

HOLLIS ALFORD, sixty-six, male; race was not stated. No order for midazolam (Versed). Toxicology results showed he had morphine and midazolam in his system at autopsy.

EMMETT EVERETT, sixty-one, male; race was not stated. Toxicology results showed he had morphine and midazolam in his system at autopsy.

## Review of 4 cases from Katrina disaster

All values mg/kg or mg/L

	Liver		Purge fluid		Brain		Muscle	
	Morphine	Midazolam	Morphine	Midazolam	Morphine	Midazolam	Morphine	Midazolam
ALFORD	0.74	3.1	0.76	0.18	0.34	>0.04	0.79	>0.04
EVERETT	3.0	0.66	2.5	0.03	0.85	1.1	1.4	0.31
SAVOIE	9.8	—	2.3	—	0.54	—	—	—
WATSON	4.2	2.6	1.3	0.35	0.35	0.10	0.76	>0.04



# Hurricane Katrina Disaster

## A Question of Murder, Page 290

ROSE SAVOIE, ninety, white female. No documentation of morphine or Versed. Toxicology results showed she had morphine in her system at autopsy.

IREATHA B. WATSON, eighty-nine, female; race was not stated. No order for morphine or Versed. Toxicology results showed she had morphine and midazolam in her system at autopsy.

## Review of 4 cases from Katrina disaster

All values mg/kg or mg/L

	Liver		Purge fluid		Brain		Muscle	
	Morphine	Midazolam	Morphine	Midazolam	Morphine	Midazolam	Morphine	Midazolam
ALFORD	0.74	3.1	0.76	0.18	0.34	>0.04	0.79	>0.04
EVERETT	3.0	0.66	2.5	0.03	0.85	1.1	1.4	0.31
SAVOIE	9.8	—	2.3	—	0.54	—	—	—
WATSON	4.2	2.6	1.3	0.35	0.35	0.10	0.76	>0.04



# Hurricane Katrina Disaster

Toxicological analysis of the tissues also showed the presence of some of the routine therapeutic drugs that the patients were being administered. The therapeutic drugs found in each case were consistent with drugs prescribed for the patients in their respective records. None of these appeared to be in toxic quantities.

Morphine quantities found in the liver, brain, and muscle for each of the cases are significant and are consistent with quantities found in cases of lethal overdoses. (see table below).

Total Morphine Concentrations in Fatalities (mg/Kg or mg/L)\*

	Liver	Muscle	Blood
Average	3.0	0.8	0.7
(Range)	0.4 - 18	0.1 - 2.0	0.2 - 2.3

\*R. Basalt, *Disposition of Toxic Drugs and Chemicals in Man*, 7<sup>th</sup> Edition, 2004, Biomedical Publications, Foster City, CA





# Hurricane Katrina Disaster

Midazolam quantities found in the tissues of two of the cases appear to be present in concentrations greater than expected from therapeutic doses.

There is not much information on tissue concentrations for midazolam lethality in the literature. A report of self administered 10 mg of midazolam intravenously gave postmortem midazolam concentrations of 0.93 mg/Kg in liver, and 0.05 mg/L in blood. (R. Baselt, *Disposition of Toxic Drugs and Chemicals in Man*).

The purge fluid in each of the cases also contained significant quantities of morphine and midazolam. Although purge fluid is not identical to blood, it is fluid that develops in the body during decomposition. Purge fluid will contain quantities of drug that had also been present in the blood.



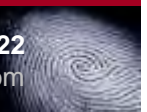
# Hurricane Katrina Disaster

## Conclusions:

In all four of the cases it appears that a lethal amount of morphine was administered. The Alford case has a concentration of morphine in the liver that is lower than the other three cases; however, there are significant amounts in the muscle and brain, as well as the purge fluid. In the Alford case, the tissue concentrations appear to be much greater than what would be expected if he had received the dose indicated in the records (1-4 mg).

The presence and amounts of midazolam in three of the cases also indicates that larger than therapeutic doses of midazolam were administered.

The drug therapy information in the records along with the toxicological drug data strongly indicates that each of the patients above had been administered morphine, and in three of the cases, administered midazolam, with the intent to produce a lethal outcome.



# Order of Investigation

Postmortem • Firefly Books, 2006

